VOLTAGE COLLAPSE POINT EVALUATION CONSIDERING THE LOAD DEPENDENCE IN A POWER SYSTEM STABILITY PROBLEM

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Abstract

Voltage Stability has emerged in recent decades as one of the most common phenomena, occurrence in Electrical Power Systems. Prior researches focused on the development of algorithm indices to solve the stability problem and in the determination of factors with most influence in voltaje collapse to solve the stability problem. This paper evaluates the influence that the load dependence has with the voltage on the phenomenon of the voltage stability and especially on the characteristics the collapse point or instability point. Load modeling used is detailed and comparisons ofthe results obtained are made with those described in the bibliography and those obtained with commercial software. The results of the load margin are also compared when a constant load or a voltage-dependent load isconsidered as well as the values obtained at the maximum load point and the point of voltage instability.

Keywords

Maximum point of load, Modal analysis, Voltage collapse, Voltage stability